

IN THE CLAIMS:

Please amend the claims as shown below. The status of the claims after amendment will be as follows:

1. (currently amended) A solder ball assembly comprising a mask having first and second sides and a plurality of holes formed therein, each hole having a first end opening onto the first side of the mask and a second end, a plurality of solder balls disposed in the holes, and a polymeric fixing agent disposed in the holes and securing the solder balls in the holes and preventing the solder balls from falling out of the holes when the mask is oriented such that the solder balls would fall out of the holes in the absence of the fixing agent.

2. (original) A solder ball assembly as claimed in claim 1 including a protective sheet attached to the first side of the mask and covering the first end of each of the holes.

3. (original) A solder ball assembly as claimed in claim 1 wherein each solder ball protrudes from the first side of the mask.

4. (original) A solder ball assembly as claimed in claim 1 wherein the fixing agent has a fluxing action.

5. (original) A solder ball assembly as claimed in claim 1

wherein the fixing agent is at least one substance selected from the group consisting of rosin adhesives, polyethylene glycol adhesives, acrylic adhesives, rubber adhesives, polyester adhesives, polyvinyl acetate adhesives, and urethane adhesives.

6. (original) A solder ball assembly as claimed in claim 2 including a parting agent disposed between the mask and the protective sheet.

7. (original) A solder ball assembly as claimed in claim 1 including a protective sheet attached to the second side of the mask and covering the second end of each of the holes.

8. (original) A solder ball assembly as claimed in claim 1 wherein each hole has a depth which is less than two times the diameter of the solder ball disposed in the hole.

9. (original) A solder ball assembly as claimed in claim 1 wherein each hole has a diameter at its first end which is at least the diameter and less than two times the diameter of the solder ball disposed therein.

10. (original) A solder ball assembly as claimed in claim 1 wherein each hole is tapered from its first end towards its second end.

11. (original) A solder ball assembly as claimed in claim

1 wherein each hole is cylindrical.

12. (original) A solder ball assembly as claimed in claim 1 wherein the second end of each hole is spaced from the second side of the mask.

13. (original) A solder ball assembly as claimed in claim 1 wherein the second end of each hole extends to the second side of the mask.

14. (original) A solder ball assembly as claimed in claim 1 wherein the mask comprises a material selected from the group consisting of photosensitive resin compositions, plastics, ceramics, paper, metal, and glass-epoxy composites.

15. (currently amended) A ball assembly comprising a mask having first and second sides and a plurality of holes formed therein, each hole having a first end opening onto the first side of the mask and a second end, a plurality of balls disposed in the holes, and a polymeric fixing agent disposed in the holes and securing the balls in the holes and preventing the balls from falling out of the holes when the mask is oriented such that the balls would fall out of the holes in the absence of the fixing agent, the balls comprising a material selected from metals, plastics, plated plastics, and ceramics.

Claims 16 - 20 (cancelled)

21. (original) A method of forming solder bumps comprising placing the solder ball assembly of claim 1 on a substrate with each of the solder balls aligned with a corresponding electrode of the substrate, then heating the solder ball assembly to cause the fixing agent to release the solder balls from the mask, reflowing the solder balls to form the solder balls into solder bumps atop the electrodes, and removing the mask from the substrate.

22. (new) A solder ball assembly as claimed in claim 1 wherein the mask is oriented such that the solder balls would fall out of the holes in the mask in the absence of the fixing agent.

23. (new) A solder ball assembly as claimed in claim 1, wherein each solder ball protrudes from the first side of the mask, and the assembly includes a protective sheet attached to the first side of the mask and covering the first end of each of the holes and conforming to the shape of the protruding portions of the solder balls.

24. (new) A solder ball assembly as claimed in claim 14, wherein the mask comprises a sheet.